



STATE OF MONTANA DEPARTMENT OF REVENUE JOB PROFILE

Working Title
Senior GIS Analyst

Job Code Title
Computer Programmer

Pay Band
06

Job Code Number
151916

Property Assessment Division
Management, Analysis, and Support Office

Fair Labor Standards Act
Non-Exempt

The Montana Department of Revenue administers more than 30 state taxes and fees; establishes values for taxable property, including agricultural land, residential real estate, commercial real estate, forest land, business equipment, railroads and public utilities; supervises the operation of the state agency liquor stores and administers the laws governing the sale, taxation, and licensing of alcoholic beverages and tobacco products; returns unclaimed property to its rightful owners; and determines how state taxes and liquor and tobacco laws apply to Indian Tribes and tribal members in Indian Country.

The Property Assessment Division is responsible for administering Montana's property tax laws, including the valuation and assessment of real and personal property throughout the state for property tax purposes. The division is responsible for ensuring that all classes of property in the state are valued uniformly and equally throughout the state. The work of the division is critical to the operation of local governments, since the resulting valuation is used annually to fund important services provided by local government, including public schools, law enforcement, fire protection, road and bridge construction and maintenance, transportation, weed control, and public assistance. The functions of the division are performed by staff statewide in four regions with offices in each of the 56 counties and the Management Analysis Bureau and the Management, Analysis, and Support Office located in Helena. The Management, Analysis, and Support Office oversees the daily management of the division. This group of staff consists of the administrator, deputy division administrator, management analysts, management officer, and division support staff.

Job Responsibilities

The Senior Geographic Information System (GIS) Analyst is responsible for developing, maintaining, and enhancing agency GIS programs, databases, and business processes facilitate data access and to provide analysis of land ownership, valuation, legal and related data; troubleshooting and resolving GIS application problems and issues; providing technical support to users; and recommending modifications to state and department Information Technology (IT) standards and business practices. This position reports to the Deputy Division Administrator and does not directly supervise staff but may, on a project by project basis, provide lead worker oversight to lower level GIS Analysts.

• Development and Maintenance of Customized GIS Programs 40%

1. Designs or customizes software applications to implement GIS technology for valuation purposes. Develops informational and functional requirements to use cadastral, agriculture, forest land, the department's automated property valuation system (ORION) data in the GIS environment. Develops and maintains code of customized GIS programs. Analyzes databases and constructs special program applications for use by department staff for spatial analysis purposes. Edits and standardizes disparate datasets (tabular and spatial) into common operating systems and processes. Creates GIS desktop applications and processes.

2. Performs analysis and quality control of GIS data to ensure the integrity of data sets. Analyzes and edits topology (data geometry) to ensure the GIS data is consistent and relevant to the desired analysis. Performs statewide or region-wide quality assurance review to ensure consistence and adherence to established standards.
3. Conducts feasibility studies to determine most effective and cost-efficient methods of enhancement and modification to existing system applications. Meets with members of the user community. Determines system requirements for enhancement or modification (database changes, file allocations, application processes, etc.). Assesses cost, staff time, and available resources to ensure that system enhancements and modifications are feasible.
4. Performs requirement analysis and system definition to modify and develop GIS applications and to determine methods of implementing project mandates with limited resources. Develops system technical specifications based on information obtained during requirement analysis. Identifies and lays out what needs to be changed in the system and processes and what further changes will occur as a result. Maps out technical requirements (changes to configuration, maps, screens, programs, files, etc.). Explains proposed system changes to users as well as obtaining user acceptance of the proposed change.
5. Develops program specifications and modifications. Reviews overall technical specifications and design objectives. Determines system detail changes (program codes and system maps). Specifies which programs, maps, and tables need to be changed or developed. Evaluates current standards and naming conventions for files, tables, and maps. Coordinates with other InformationTechnology experts. Reviews current system documentation. Applies advanced utility programs to determine what needs to be changed.
6. Designs or modifies programs. Determines the proper language and required command files. Codes programs by translating design specifications into computer language programs and command files. Finalizes data elements used by the system and associated existence constraints. Designs files using descriptions of all information elements and the definitions of the files. Defines data stores and database definitions. Designs detailed record formats and record relationships.
7. Performs unit, integration, and system testing to ensure that all applications function properly. Performs unit testing to ensure that changes in portions of program do not affect program capabilities. Performs integration testing to ensure that programs function properly when multiple programs are integrated into the new system. Performs system testing when all intended changes have been made to ensure that the system as a whole functions as required. Releases the program to users for testing. Responds to reports of problems encountered by users and makes necessary changes to ensure system functions as anticipated.
8. Manages and maintains GIS and cartographic databases. Ensures the integrity and accessibility of data. Imports data into a functional system for department users and customers. Defines system outputs including on-line reports and maps. Integrates end-user outputs and application parameters. Coordinates with Information Technology staff in the design and modification of databases. Writes queries and routines. Diagnoses problems and resolves issues unique to GIS and cartographic production.

- **Troubleshooting and Technical Support 40%**

1. Troubleshoots problems and issues for department GIS applications. Participates in data collection and analysis teams to assist with GIS collection methodologies and troubleshooting using advanced knowledge of GIS technology, computer operating systems, and diagnostic tools in a variety of situations to resolve interface problems.
2. Develops new GIS and mapping solutions including interfaces between internal systems, templates, and automation scripts using specialized GIS software, mapping resources, and department and external databases. Provides technical assistance and support to division work groups in geographic data analysis using aerial photographs, digital images, and geographic characteristics including using automated image recognition and determining optimal resolution and scanning images.

3. Resolves GIS program problems by developing code on a variety of development platforms, including VBA, VB, C, Net, ESRI Arc Objects, and ESRI ARCIMS.
 4. Develops technical and user documentation to provide accurate and complete information and data related to system design, user training, technical programming, and business processes which may require certain programming, database models and related diagrams, and other system specifications. Establishes policies, procedures, and documentation requirements for individual GIS projects to ensure that system design, testing, implementation, and training activities are appropriately recorded throughout the course of development projects.
 5. Develops and delivers training programs on GIS system functions and operations to ensure the proficiency and competency of users. Develops training based upon new and modified system operations, assessment of user needs, new procedures and technologies, and other factors. Trains user groups and continually provides technical assistance as needed to users.
 6. Provides problem resolution and support for agency GIS applications and databases and provides direction on possible resolutions. Prioritizes user support based on how critical the application is, logistics, options to keep the system functioning, and impacts on related systems. Resolves user problems by establishing methods and using diagnostic tools to isolate problems; analyzing hardware and software configurations, network components, and communication issues; and developing solutions to correct problems.
- **Business Process Analysis and Reengineering 15%**
 1. Recommends modifications to state and department information technology standards and business practices to improve the efficiency of processes and ensure adequate support of current and future GIS applications.
 2. Designs, develops, and implements new GIS approaches and techniques to improve efficiency and effectiveness of applications. Conducts GIS needs assessments including working with functional groups and internal business clients to develop short and long-term system plans.
 3. Researches and evaluates the business processes, environments, and objectives of GIS users to establish strategic plans for the development, enhancement, and maintenance of GIS systems including enhancements to statewide GIS applications and databases. This involves detailed analysis and evaluation of agency business processes, system specifications, associated costs, and applicable policies and procedures; consultation with users and management; and research and review of technical documentation to determine viable solutions.
 4. Researches, develops, and presents recommendations to management on how division GIS applications, databases, and enterprise systems can best function in a spatial environment. Performs feasibility analysis of computer GIS applications. Identifies inefficiencies in, and recommends changes to, IT practices and procedures. Represents the division and department on GIS technical committees.
 - **Other Duties 5%**
 1. Performs a variety of other duties as assigned.
 2. Directs or participates in special projects.
 3. Attends ongoing training and education.

Job Requirements

To perform successfully as a senior GIS analyst, the incumbent must be self-motivated; possess a strong work ethic; maintain a positive attitude; and enjoy working with, and for, the public. It is essential that incumbent has deductive and inductive reasoning abilities to solve complex problems. Skills in performing needs assessments; gathering data to perform feasibility analyses of computer systems; analysis of spatial data; collecting geographic or physical data; preparing technical reports; reading and interpreting technical maps and drawings; interpreting aerial maps; analyzing technical and legal documents; researching and synthesizing data from multiple sources; resolving conflict situations with taxpayers and others; multi-tasking; paying attention to details and accuracy; managing multiple priorities under tight deadlines; providing timely and effective written, verbal, and interpersonal communication;

customer service; following written and oral directions and instructions; and word processing, spreadsheet and database applications are required. Incumbent is required to resolve problems and accept responsibility for decisions. This position may work with confidential financial and tax information and is required to maintain the highest level of confidentiality regarding all information acquired or used in performing this job.

This position requires knowledge of the principles and practices of information technology systems, processes, and procedures; GIS programming languages, hardware, software; the design, theory, and functions of computer GIS applications; applicable federal and state statutes, administrative rules, policies, and procedures; computer application testing procedures, project management practices; geographic information sources such as the Government Land Office (GLO), Bureau of Land Management (BLM), US Public Land Survey System, and private surveys; aerial photography; mathematics (geometry, algebra, trigonometry); and the cartographic process.

- The minimum level of education and job-related work experience needed as a new employee **on the first day** of work is a Bachelor's degree in cartography, geography, computer science, drafting, GIS, engineering, information technology, graphic design, or closely related field and three years of job-related experience.
 - Work must include experience with computer programming languages, project management design, and implementation and various suites of GIS platforms.
 - Other combinations of education and experience will be evaluated on an individual basis.

Department Core Values

- **Respect:** As a representative of the people of Montana, proceeds with the highest level of respect for the dignity of every person contacted through work. Without exception, all people are treated as equally as possible. The employee is a faithful steward of the resources provided to this agency by the citizens of Montana.
- **Integrity:** Conducts work honestly and makes decisions that establish a clear record that the department serves the public with integrity. Apologizes for mistakes and gives credit to others for their cooperation, work, and ideas in achieving positive results. Accountable for their actions and holds others accountable for theirs. Decisions and judgments achieve equity and justice for all parties involved including citizens and co-workers.
- **Productivity:** Consistently strives to minimize the waste of the department's financial, facilities, and human resources. Diligently works to improve the productivity and effectiveness of the work unit. Welcomes and encourages new ideas on improving the results of the department from the public, other officials, colleagues, and supervisors. Approaches work in a manner that builds goodwill, trust, and cooperation internally with other staff and externally with the public.
- **Teamwork:** Maximizes cooperation and teamwork when working with other employees, divisions, and other state agencies. Willing to work with others for the opportunity to learn from their ideas, talents, and knowledge. Seeks to resolve conflicts with other employees and work units in an open and respectful manner that reinforces teamwork. Celebrates the successes of others.

Working Conditions

Must work under time constraints, be able to maintain numerous projects at one time, and determine priorities on a daily basis. At times, the incumbent will deal with angry, hostile, and difficult individuals to resolve concerns or to bring about compliance with regulations. This may cause stressful work conditions and a high degree of mental stress. As a Department of Revenue employee, the incumbent may come into contact with highly confidential financial and tax information and is required to maintain the highest level of confidentiality regarding all information acquired or used in performing this job. This position requires considerable computer and keyboard use. Work hours may exceed 40 hours per week from time to time. May involve minimal travel therefore a valid Montana driver's license is required. Lifting is infrequent, less than 15 pounds and includes carrying light items such as papers and books. This job requires regular attendance as scheduled by the supervisor. This job cannot be performed at an alternate work site.

Special requirements

- Background Examination: Applicants for this position will be subject to a criminal background review before being considered for employment. Individual circumstances involving a criminal conviction will be reviewed to determine an applicant's eligibility for employment.
- Compliance with All Appropriate Montana Tax Laws: An employee's tax status must be current.

This job profile was produced by the Office of Human Resources in conjunction with the appropriate managers.

Division Administrator Review: The statements in this job profile are accurate and complete.

Signature: Cynthia Monteau Moore, Division Administrator Date: May 2011

Human Resource Director Review: The Office of Human Resources has reviewed this job profile.

Signature: JeanAnn Scheuer, Human Resources Director Date: May 2011

Employee: My signature below indicates I have read this job profile and discussed it with my supervisor.

Signature: _____ Date: _____

Name (print): _____